Floyds Fork Watershed Study

Kentucky Division of Water
Department for Environmental Protection

To Protect and Enhance Kentucky's Environment

Kentucky
UNBRIDLED SPIRIT

Where are nutrients causing an impairment of water quality in the Floyds Fork watershed?

Project Objectives

- Assess the current biological health of the watershed by collecting

Bugs

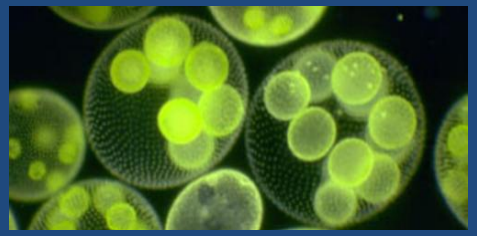


Fish



Algae





Biological Indicators

- Aquatic organisms (bug, fish and algae) offer clues about the health of the environment
- Some aquatic organisms are tolerant to pollution while others are sensitive to pollution
- Presence/absence or abundance of certain organisms can indicate whether a body of water is clean or polluted





Project Objectives Continued

- Measure how nutrient levels in neighboring watersheds with healthy biological communities compare to levels in Floyds Fork
- Measure the contribution of nutrients from permitted facilities

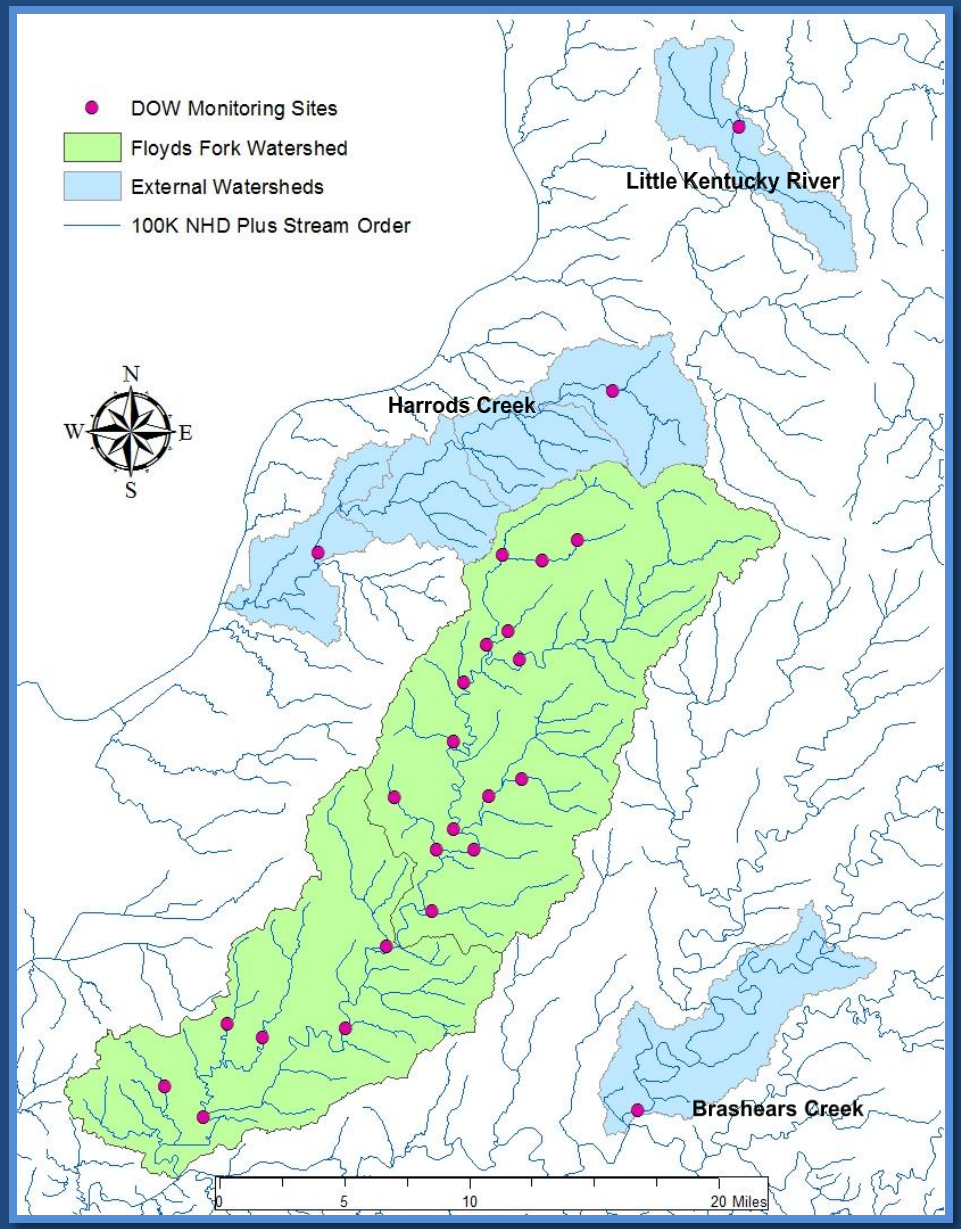
Floyds Fork Watershed Study Plan

- 25 total sites

- Site locations were chosen based on
  - the availability of historical nutrient data
  - the range of nutrient levels historically observed in the watershed
  - the need for new biology data

- All work will be completed by October 2012

Floyds Fork Watershed Study Area



Site Information

Floyds Fork Watershed Sites

- Brooks Run (1 site)
- Curry's Fork (4 sites)
- Cane Run (1 site)
- Cedar Creek (1 site)
- Chenoweth Run (1 site)
- Floyds Fork (6 sites)
- Long Run (2 sites)
- Pennsylvania Run (1 site)
- Pope Lick (2 sites)

External Watershed Sites

- Brashears Creek (1 site)
- Harrods Creek (2 sites)
- Little Kentucky River (1 site)

Site Visit Activities

- General field observations
- Biological sampling
  - Bugs
  - Fish
  - Algae
- Habitat Assessment
  - Assessment of the quality of the habitat available to aquatic organisms
- Visual algae surveys
  - Survey of the types and the thickness of algae growing in the stream
- Chlorophyll-*a* sampling
  - Measurement of the amount of algae in the water column

Project Status

- 21 of 23 biology sampling events and habitat assessments are complete
  - 2 sites were pooled
- Algae surveys and chlorophyll-*a* sampling are ongoing